



GARMIN BANNED / RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

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GARMIN LTD. OR ITS
SUBSIDIARIES C/O GARMIN
INTERNATIONAL
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GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

I. DEFINITIONS

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RoHS - Restrictions Hazardous Substances

SVHC – (REACH) Substances of Very High Concern

REACH – Registration Evaluation Authorization and restriction of Chemicals

EChA – European Chemicals Agency

ODC – Ozone Depleting Chemicals

PFOS – PerfluoroxySulfonates

CHCC – Chemicals of High Concern to Children

PAH – Polycyclic Aromatic Hydrocarbons

Banned Substances – Must not be present in products, components or materials in excess of the designated thresholds

Restricted (Declarable) Substances – May be present in products, components or materials. These substances must be reported to Garmin if present in quantities in excess of the designated thresholds and quantity information must be provided

Material Level Drawing – Any level of drawing which specifies:

- A material (e.g. plastic, plating)
- A component or assembly as purchased from a supplier (resistor, screen)
- Certain process steps (soldering, greasing, glue)
- Whole products, accessories, and packaging

Substances of Concern:

Any substances identified by Garmin that are affected by regulatory compliance, customer requirements, or Garmin specifications such as Lead, Mercury, Cadmium, Hexavalent Chromium, PFOS, ODC's, certain Phthalates and Brominated Fire Retardants, etc. as identified below.

II. COMPLIANCE

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Suppliers shall carefully review each section below and, upon request, shall provide a verification of compliance to Garmin.

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APPENDIX A

Section 1: Banned Substances Lists

Section 1.1: List of Controlled Ozone Depleting Chemicals (ODCs)

Garmin products and components must not be manufactured with and cannot contain the following substances.

Class 1 Substances

Group 1 – Chlorofluorocarbons (CFCs)	CAS Number	EC Number	Typical Use	Regulation	Threshold
CFC-11 <i>Trichlorofluoromethane</i> (CFC13)	75-69-4	200-892-3	Refrigerant	Montreal Protocol EC/2037/2000, US EPA ODS	0
CFC-12 <i>Dichlorodifluoromethane</i> (CCl2F2)	75-71-8	200-893-9	Refrigerant, Propellant	Montreal Protocol EC/2037/2000, US EPA ODS	0
CFC-113 <i>1,1,2-trichloro-1,2,2-trifluoroethane</i> (C2F3Cl3)	76-13-1	200-936-1	Cleaning Solvent	Montreal Protocol EC/2037/2000, US EPA ODS	0
CFC-114 <i>1,2-dichloro-1,1,2,2-tetrafluoroethane</i> (C2F4Cl2)	76-14-2	200-937-7	Refrigerant	Montreal Protocol EC/2037/2000, US EPA ODS	0
CFC-115 <i>1-chloro-1,1,2,2,2-pentafluoroethane</i> (C2F5Cl)	76-15-3	200-938-2	Refrigerant, Propellant	Montreal Protocol EC/2037/2000, US EPA ODS	0

Group 2 – Halons	CAS Number	EC Number	Typical Use	Regulation	Threshold
Halon 1211 <i>Bromochlorodifluoromethane</i> (CF2BrCl)	353-59-3	206-537-9	Fire Suppression	Montreal Protocol EC/2037/2000, US EPA ODS	0
Halon 1301 <i>Bromotrifluoromethane</i>	75-63-8	200-887-6	Fire Suppression	Montreal Protocol EC/2037/2000, US EPA ODS	0
Halon 2402 <i>1, 2 – dibromotetrafluoroethane</i> (C2F4Br2)	124-73-2	204-711-9	Fire Suppression	Montreal Protocol EC/2037/2000, US EPA ODS	0

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Group 3 – CFCs	CAS Number	EC Number	Typical Use	Regulation	Threshold
CFC-113 <i>Chlorotrifluoromethane</i> (CF ₃ Cl)	75-72-9	200-894-4	Refrigerant	Montreal Protocol EC/2037/2000, US EPA ODS	0
CFC-111 <i>Pentachlorofluoroethane</i> (C ₂ FCI ₅)	354-56-3	----	Aerosol Propellant	Montreal Protocol EC/2037/2000, US EPA ODS	0
CFC-112 <i>Tetrachloro-1,2-difluoroethane</i> (C ₂ F ₂ CI ₄)	76-12-0	200-935-6	Refrigerant, dry cleaning, plastics	Montreal Protocol EC/2037/2000, US EPA ODS	0
CFC-211 <i>Heptachlorofluoropropane</i> (C ₃ FCI ₇)	422-78-6	----	Aerosol Propellant	Montreal Protocol EC/2037/2000, US EPA ODS	0
CFC-212 <i>2,2-difluoro-1,1,1,3,3,3 hexachloropropane</i> (C ₃ F ₂ CI ₆)	3182-26-1	----	Aerosol Propellant	Montreal Protocol EC/2037/2000, US EPA ODS	0
CFC-213 <i>1,1,1,3,3-pentachloro-2,2,3 trifluoropropane</i> (C ₃ F ₃ CI ₅)	2354-06-5	----	Aerosol Propellant	Montreal Protocol EC/2037/2000, US EPA ODS	0
CFC-214 <i>Tetrachlorotetrafluoropropane</i> (C ₃ F ₄ CI ₄)	29255-31-0	----	Aerosol Propellant	Montreal Protocol EC/2037/2000, US EPA ODS	0
CFC-215 <i>1,1,1-trichloropentafluoropropane</i> (C ₃ F ₄ CI ₃)	4259-43-2	----	Aerosol Propellant	Montreal Protocol EC/2037/2000, US EPA ODS	0
CFC-216 <i>1,2-dichlorohexafluoropropane</i> (C ₃ F ₆ CI ₂)	661-97-2	211-551-3	Aerosol Propellant	Montreal Protocol EC/2037/2000, US EPA ODS	0
CFC-217 <i>1-chloroheptafluoropropane</i> (C ₃ F ₇ CI)	422-86-6	207-024-2	Aerosol Propellant	Montreal Protocol EC/2037/2000, US EPA ODS	0

Group 4 – Carbon Tetrachloride (CCl ₄)	CAS Number	EC Number	Typical Use	Regulation	Threshold
Carbon Tetrachloride <i>tetrachloromethane</i> (CCl ₄)	56-23-5	200-262-8	Cleaning Agent	Montreal Protocol EC/2037/2000, US EPA ODS	0

Group 5 – 1, 1, 1-trichloroethane (C ₂ H ₃ CI ₃)	CAS Number	EC Number	Typical Use	Regulation	Threshold
Methyl Chloroform <i>1, 1, 1-trichloroethane</i> (C ₂ H ₃ CI ₃)	71-55-6	200-756-3	Solvent	Montreal Protocol EC/2037/2000, US EPA ODS	0

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Hydrochlorofluorocarbons (HCFCs)	CAS Number	EC Number	Typical Use	Regulation	Threshold
HCFC-21 <i>Dichlorofluoromethane</i> (CHFCI ₂)	75-43-4	200-869-8	Refrigerant, propellant	Montreal Protocol	0
HCFC-22 <i>Chlorodifluoromethane</i> (CHF ₂ Cl)	75-45-6	200-871-9	Various	Montreal Protocol	0
HCFC-31 <i>Chlorofluoromethane</i> (CH ₂ FCI)	593-70-4	209-803-2	Various	Montreal Protocol	0
HCFC-121 <i>1,1,2,2-tetrachlorofluoroethane</i> (C ₂ HFCl ₄)	354-14-3	206-546-8	Various	Montreal Protocol	0
HCFC-122 <i>1,2,2-trichloro-1,1-difluoroethane</i> (C ₂ HF ₂ Cl ₃)	354-21-2	206-548-9	Various	Montreal Protocol	0
HCFC-123 <i>dichloro-1,1,1-trifluoroethane</i> (C ₂ HF ₃ Cl ₂)	306-83-2	206-190-3	Various	Montreal Protocol	0
HCFC-124 <i>chloro-1,1,1,2-tetrafluoroethane</i> (C ₂ HF ₄ Cl)	2837-89-0	220-629-6	Various	Montreal Protocol	0
HCFC-131 <i>1,1,2-trichloro-2-fluoroethane</i> (C ₂ H ₂ FCI ₃)	359-28-4	----	Various	Montreal Protocol	0
HCFC-132b <i>1,2-dichloro-1,1-difluoroethane</i> (C ₂ H ₂ F ₂ Cl ₂)	1649-08-7	216-714-2	Various	Montreal Protocol	0
HCFC-133a <i>2-chloro-1,1,1-trifluoroethane</i> (C ₂ H ₂ F ₃ Cl)	75-88-7	200-912-0	Various	Montreal Protocol	0
HCFC-141b <i>1,1-dichloro-1-fluoroethane</i> (C ₂ H ₃ FCI ₂)	1717-00-6	404-080-1	Various	Montreal Protocol	0
HCFC-142b <i>1-chloro-1,1-difluoroethane</i> (C ₂ H ₃ F ₂ Cl)	75-68-3	200-891-8	Various	Montreal Protocol	0
HCFC-221 <i>1,1,1,2,2,3-hexachloro-3-fluoropropane</i> (C ₃ HFCl ₆)	422-26-4	-----	Various	Montreal Protocol	0
HCFC-222 <i>1,1,1,3,3-pentachloro-2,2-difluoropropane</i> (C ₃ HF ₂ Cl ₅)	422-49-1	-----	Various	Montreal Protocol	0
HCFC-223 <i>1,1,3,3-tetrachloro-1,2,2-trifluoropropane</i> (C ₃ HF ₃ Cl ₄)	422-52-6	-----	Various	Montreal Protocol	0
HCFC-224 <i>1,1,3-trichloro-2,2,3,3-tetrafluoropropane</i> (C ₃ HF ₄ Cl ₃)	422-54-8	207-014-8	Various	Montreal Protocol	0
HCFC-225ca <i>1,1-dichloro-2,2,2,3,3-pentafluoropropane</i> (C ₃ HF ₅ Cl ₂)	422-56-0	207-016-9	Various	Montreal Protocol	0
HCFC-225cb <i>1,3-dichloro-1,2,2,3,3-entafluoropropane</i> (C ₃ HF ₅ Cl ₂)	507-55-1	208-076-9	Various	Montreal Protocol	0
HCFC-226 <i>2-chloro-1,1,1,3,3,3-hexafluoropropane</i> (C ₃ HF ₆ Cl)	431-87-8	207-078-7	Various	Montreal Protocol	0
HCFC-231 <i>1,1,1,2,3-pentachloro-2-fluoropropane</i> (C ₃ H ₂ FCI ₅)	421-94-3	-----	Various	Montreal Protocol	0
HCFC-232 <i>1,1,1,3-tetrachloro-3,3-difluoropropane</i> (C ₃ H ₂ F ₂ Cl ₄)	460-89-9	-----	Various	Montreal Protocol	0
HCFC-233 <i>1,1,1-trichloro-3,3,3-trifluoropropane</i> (C ₃ H ₂ F ₃ Cl ₃)	7125-84-0	-----	Various	Montreal Protocol	0

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HCFC-234 1,3-dichloro-1,1,3,3-tetrafluoropropane (C3H2F4Cl2)	425-94-5	-----	Various	Montreal Protocol	0
HCFC-235 1-chloro-1,1,3,3,3-pentafluoropropane (C3H2F5Cl)	460-92-4	-----	Various	Montreal Protocol	0
HCFC-241 tetrachlorofluoropropane (C3H3FCl4)	666-27-3	-----	Various	Montreal Protocol	0
HCFC-242 1,3,3-trichloro-1,1-difluoropropane (C3H3F2Cl3)	460-63-9	-----	Various	Montreal Protocol	0
HCFC-243 1,1-dichloro-3,3,3-trifluoropropane (C3H3F3Cl2)	460-69-5	-----	Various	Montreal Protocol	0
HCFC-244 chloro-1,1,2,2-tetrafluoropropane (C3H3F4Cl)	679-85-6	-----	Various	Montreal Protocol	0
HCFC-251 Monochloro-tetrafluoropropane (C3H4FCl3)	421-41-0	-----	Various	Montreal Protocol	0
HCFC-252 1,1-dichloro-2,2-difluoropropane (C3H4F2Cl2)	819-00-1	-----	Various	Montreal Protocol	0
HCFC-253 chloro-3,3,3-trifluoropropane (C3H4F3Cl)	460-35-5	207-307-0	Various	Montreal Protocol	0
HCFC-261 1,2-dichloro-2-fluoropropane (C3H5FCl2)	420-97-3	206-999-1	Various	Montreal Protocol	0
HCFC-262 monochlorodifluoropropane (C3H5F2Cl)	421-02-03	-----	Various	Montreal Protocol	0
HCFC-271 1-chloro-1-fluoropropane (C3H6FCl)	430-55-7	-----	Various	Montreal Protocol	0
*All isomers of the above HCFCs					

Section 1.1A: List of Controlled Greenhouse Gases

Garmin products and components must not be manufactured with and cannot contain the following substances

Hydrofluorocarbons (HCFC's), Group 1	CAS Number	EC Number	Typical Use	Regulation	Threshold
HFC-134	359-35-3	206-628-3	various	EPA	0
HFC-134a	811-97-2	212-377-0	various	EPA	0
HFC-143	430-66-0	207-066-1	various	EPA	0
HFC-245fa	460-73-1	--	various	EPA	0
HFC-365mfc	406-58-6	--	various	EPA	0
HFC-227ea	431-89-0	207-079-2	various	EPA	0
HFC-236cb	677-56-5	--	various	EPA	0
HFC-236ea	431-63-0	207-076-6	various	EPA	0
HFC-236fa	690-39-1	--	various	EPA	0
HFC-245ca	679-86-7	--	various	EPA	0
HFC-43-10mee	420-46-2	206-996-5	various	EPA	0
HFC-32	75-10-5	200-839-4	various	EPA	0
HFC-125	354-33-6	206-557-8	various	EPA	0
HFC-143a	420-46-2	--	various	EPA	0
HFC-41	593-53-3	209-796-6	various	EPA	0
HFC-152	624-72-6	--	various	EPA	0
HFC-152a	75-37-6	200-866-1	various	EPA	0

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Hydrofluorocarbons (HCFC's), Group 2	CAS Number	EC Number	Typical Use	Regulation	Threshold
HFC-23	75-46-7	200-872-4	various	EPA	0

Section 1.2 RoHS Banned Substances

When specified on material level drawings as “RoHS Compliant”, Garmin products and components must not contain the following substances in excess of the threshold levels indicated, unless permitted under a current Annex III or IV exemption. Certain products such as electronic GPS systems that are permanently integrated into a vehicle (i.e., aircraft, boats, etc.) and non-electronic items such as manuals, packaging or non- electronic accessories not bundled with covered products are exempt from the RoHS requirements. Products that are not sold into Europe may also be exempt from RoHS. If drawings do not specify the words “RoHS Compliant” the product and components are exempt from the designated thresholds for Cadmium, Hexavalent chromium, lead and mercury. Flame retardants such as PBB and PBDE are no longer manufactured and should not be present in products.

Note: For Wearable/Children’s Products additional regulations cited below in this document are more stringent than the RoHS requirements

RoHS Banned Substances	CAS Number	EC Number	Typical Use	Regulation	Threshold
Cadmium (Cd) and cadmium compounds See GADSL link below for specific substances	Group	Group	plating, pigments	EU 2011/65/EU	100ppm
Hexavalent chromium (Cr ⁶⁺) – All forms See GADSL link below for specific substances	Group	Group	conversion, coatings, leather tanning	EU 2011/65/EU	1000ppm
Lead (Pb) and lead compounds See GADSL link below for specific substances	Group	Group	various	EU 2011/65/EU	1000ppm
Mercury (Hg), Mercury compounds See GADSL link below for specific substances	Group	Group	various	EU 2011/65/EU	1000ppm
DEHP Bis(2-ethylhexyl)phthalate	117-81-7	204-211-0	Plasticizer- plastics/rubber. Epoxies and Sealants	EU 2011/65/EU Annex II	1000ppm
BBP Butyl benzyl Phthalate	85-68-7	201-622-7	Plasticizer- plastics/rubber. Epoxies and Sealants	EU 2011/65/EU Annex II	1000ppm
DBP Dibutyl phthalate	84-74-2	201-557-4	Plasticizer- plastics/rubber. Epoxies and Sealants	EU 2011/65/EU Annex II	1000ppm
DIBP Diisobutyl phthalate	84-69-5	201-553-2	Plasticizer- plastics/rubber. Epoxies and Sealants	EU 2011/65/EU Annex II	1000ppm

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Section 1.3 Chemicals of High Concern to Children Banned Substances

Garmin products and components must not contain the following substances in amounts at or above the threshold levels.

	CAS Number	EC Number	Typical Use	Regulation	Threshold
Formaldehyde	50-00-0	200-001-8	Textiles, carry cases, leather	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Aniline	62-53-3	200-530-3	Chemical intermediate, dyes	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
N-Nitrosodimethylamine	62-75-9	200-549-8	Poison, not used commercially	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Benzene	71-43-2	200-753-7	solvent	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Vinyl chloride	75-01-4	200-831-0	polymer residue	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Acetaldehyde	75-07-0	200-836-8	Used in plastics, synthetic rubber, leather, adhesives	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Methylene chloride	75-09-2	200-838-9	Solvent, PU Foam, Adhesives	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Carbon disulfide	75-15-0	200-843-6	Solvent, rayon, resins, rubber	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Methyl ethyl ketone	78-93-3	201-159-0	solvent, carrier	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
1,1,2,2-Tetrachloroethane	79-34-5	201-197-8	Solvent, chemical intermediate, refrigerant	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Tetrabromobisphenol A	79-94-7	201-236-9	Flame retardant	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Bisphenol A	80-05-7	201-245-8	Used in plastics, resins, thermal paper	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Diethyl phthalate	84-66-2	201-550-6	Plasticizer	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Dibutyl phthalate (DBP)	84-74-2	201-557-4	Plasticizer for PVC and rubber sealants	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Di-n-Hexyl phthalate	84-75-3	201-559-5	Plasticizer	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Phthalic anhydride	85-44-9	201-607-5	Chemical intermediate, production of PVC	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Butyl benzyl phthalate (BBP)	85-68-7	201-622-7	Plasticizer for PVC and rubber sealants	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
N-Nitrosodiphenylamine	86-30-6	201-663-0	Used in production of rubber	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Hexachlorobutadiene	87-68-3	201-765-5	rubber compounds, lubricants	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Propyl paraben	94-13-3	202-307-7	Preservative	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Butyl paraben	94-26-8	202-318-7	Antimicrobial agent	WA 70.240 RCWOR OAR 333-016-2000	50 ppm

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2-Aminotoluene	95-53-4	202-429-0	Used as a chemical intermediate for the production of the dyes C.I. solvent red 24 and C.I. acid red 115	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
2,4-Diaminotoluene	95-80-7	202-453-1	Intermediate Chemical Synthesis Intermediate in production of sulfur dyes	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Methyl paraben	99-76-3	202-785-7	Preservative	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
p-Hydroxybenzoic acid	99-96-7	202-804-9	Chemical intermediate	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Ethylbenzene	100-41-4	202-849-4	Chemical intermediate in production of polystyrene	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Styrene	100-42-5	202-851-5	Used in production of polystyrene, ABS, etc.	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
4-Nonylphenol; 4-NP and its isomer mixtures including CAS 84852-15-3 and CAS 25154-52-3	104-40-5	203-199-4	Used in lubricating oils, detergents, emulsifiers. Also used in production of PVC.	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
para-Chloroaniline	106-47-8	203-401-0	Used in production of pesticides, drugs and dyes	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Acrylonitrile	107-13-1	203-466-5	Used in production of ABS	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Ethylene glycol	107-21-1	203-473-3	Used in antifreeze and production of polyesters such as PET	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Toluene	108-88-3	203-625-9	Chemical intermediate	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Phenol	108-95-2	203-632-7	Chemical intermediate, used in production of BPA	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
2-Methoxyethanol	109-86-4	203-713-7	solvent, fuel additive, chemical intermediate	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Ethylene glycol monoethyl ester	110-80-5	203-804-1	solvent, chemical intermediate	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Tris(2-chloroethyl) phosphate	115-96-8	204-118-5	flame retardant, plasticizer, PU foams PVC, plastics, rubber	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	204-211-0	Plasticizer for PVC and rubber sealants	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Di-n-octyl phthalate (DnOP)	117-84-0	204-214-7	Plasticizer	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Hexachlorobenzene	118-74-1	204-273-9	rubber products	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
3,3'-Dimethylbenzidine and Dyes, Metabolized to 3,3'-Dimethylbenzidine	119-93-7	204-358-0	Dyes	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Ethyl paraben	120-47-8	204-399-4	Preservative	WA 70.240 RCWOR OAR 333-016-2000	50 ppm

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1,4-Dioxane	123-91-1	204-661-8	Solvent in inks and adhesives, stabilizer	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Perchloroethylene	127-18-4	204-825-9	Solvent, degreaser	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Benzophenone-2 (Bp-2); 2,2',4,4'- Tetrahydroxybenzophenone	131-55-5	205-028-9	UV coating	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
4-tert-Octylphenol; 1,1,3,3- Tetramethyl-4-butylphenol	140-66-9	205-426-2	Component in adhesives, coatings, inks and rubber	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Estragole	140-67-0	205-427-8	Food additive	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
2-Ethylhexanoic acid	149-57-5	205-743-6	Chemical intermediate	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Octamethylcyclotetrasiloxane	556-67-2	209-136-7	Used in the production of silicon polymers	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Benzene, pentachloro	608-93-5	210-172-0	flame retardant	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
C.I. solvent yellow 14	842-07-9	212-668-2	Azo Dye	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
N-Methylpyrrolidone	872-50-4	212-828-1	Coatings, electronics, pharmaceuticals	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
2,2',3,3',4,4',5,5',6,6'- Decabromodiphenyl ether; BDE-209	1163-19-5	214-604-9	fire retardant, plastics, foam, fabrics	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Perfluorooctanyl sulphonic acid and its salts; PFOS	1763-23-1	217-170-8	Flame retardant, surface coating	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
p-Octylphenol	1806-26-4	217-302-5	Chemical intermediate	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
2-Ethyl-hexyl-4- methoxycinnamate	5466-77-3	226-775-7	UV coating	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Mercury & mercury compounds, including methyl mercury (22967-92-6)	7439-97-6	231-106-7	Lighting, batteries, coatings, electronics, switches	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Molybdenum & molybdenum compounds	7439-98-7	231-107-2	Used in lubricants, ceramics, adhesives, etc.	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Antimony & Antimony compounds	7440-36-0	231-146-5	Used in flame- proofing, pigments, semiconductors, etc.	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Arsenic & Arsenic compounds including arsenic trioxide (1327-53-3) & dimethyl arsenic (75-60-5)	7440-38-2	231-148-6	Used in pigments, semiconductors, alloys, etc.	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Cadmium & cadmium compounds	7440-43-9	231-152-8	Use in electroplating and metal coatings, batteries	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Cobalt & cobalt compounds	7440-48-4	231-158-0	Used in batteries, alloys, catalysts, etc.	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Tris(1,3-dichloro-2- propyl)phosphate	13674-87-8	237-159-2	Flame retardant	WA 70.240 RCWOR OAR 333-016-2000	50 ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

Butylated hydroxyanisole; BHA	25013-16-5	246-563-8	Antioxidant, food preservative	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Hexabromocyclododecane	25637-99-4	247-148-4	Flame retardant in polystyrene	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Diisodecyl phthalate (DIDP)	26761-40-0	247-977-1	Plasticizer	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Diisononyl phthalate (DINP)	28553-12-0	249-079-5	Plasticizer	WA 70.240 RCWOR OAR 333-016-2000	50 ppm
Phthalic anhydride	85-44-9	201-607-5		WA 70.240 RCW OR OAR 333-016-2000	50 ppm
Butyl benzyl phthalate (BBP)	85-68-7	201-622-7		WA 70.240 RCW OR OAR 333-016-2000	50 ppm
N-Nitrosodiphenylamine	86-30-6	201-663-0		WA 70.240 RCW OR OAR 333-016-2000	50 ppm
Hexachlorobutadiene	87-68-3	201-765-5		WA 70.240 RCW OR OAR 333-016-2000	50 ppm
2-Aminotoluene	95-53-4	202-429-0	Used as a chemical intermediate for the production of the dyes C.I. solvent red 24 and C.I. acid red 115	WA 70.240 RCW OR OAR 333-016-2000	50 ppm
2,4-Diaminotoluene	95-80-7	202-453-1	Intermediate Chemical Synthesis Intermediate in production of sulfur dyes	WA 70.240 RCW OR OAR 333-016-2000	50 ppm
p-Hydroxybenzoic acid	99-96-7	202-804-9	Chemical intermediate	WA 70.240 RCW OR OAR 333-016-2000	50 ppm
Ethylbenzene	100-41-4	202-849-4	Chemical intermediate in production of polystyrene	WA 70.240 RCW OR OAR 333-016-2000	50 ppm
Styrene	100-42-5	202-851-5		WA 70.240 RCW OR OAR 333-016-2000	50 ppm
4-Nonylphenol; 4-NP and its isomer mixtures including CAS 84852-15-3 and CAS 25154-52-3	104-40-5	203-199-4	Used in lubricating oils, detergents, emulsifiers. Also used in production of PVC.	WA 70.240 RCW OR OAR 333-016-2000	50 ppm
2-Ethylhexyl-2,3,4,5-tetrabromobenzoate (TBB)	183658-27-7	214-089-0	Flame retardant	ORS 431A 253-280 WAC Title 173 CH 173-334	50 ppm
Bisphenol F (BPF)	620-92-8	941-435-4	Plastic coatings and linings, hardener for plastics	ORS 431A 253-280 WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Bisphenol S (BPS)	80-09-1	201-250-5	Curing agent in epoxies, polymer reactant	ORS 431A 253-280 WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

Chlorinated Paraffins	108171-26-2	NONE	Flame retardant, plasticizer	ORS 431A 253-280 WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Dicyclohexyl phthalate (DCHP)	84-61-7	201-545-9	Plasticizer	ORS 431A 253-280 WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Ethylhexyl diphenyl phosphate (EHDPP)	1241-94-7	214-987-2	Flame retardant for PVC	ORS 431A 253-280 WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Short-chain Chlorinated Paraffins	85535-84-8	287-476-5	Flame retardant, plasticizer	ORS 431A 253-280 WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Triphenyl phosphate (TPP)	115-86-6	204-112-2	Flame retardant, plasticizer	ORS 431A 253-280 WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Tris (1-chloro-2-propyl) phosphate (TCPP)	13674-84-5	237-158-7	Flame retardant, plasticizer	ORS 431A 253-280 VT Title 18 CH 38A	50 ppm
Di-(2-methoxyethyl) phthalate (DMEP)	117-82-8	204-212-6	Plasticizer	WAC Title 173 CH 173-334 ORS 431A 253-280	50 ppm
Tricresyl phosphate (TCP)	1330-78-5	201-105-6	Flame retardant, plasticizer	WAC Title 173 CH 173-334 VT Title 18 CH 38A ORS 431A 253-280	50 ppm
Bis (chloromethyl) propane-1,3-diyl tetrakis-(2-chloroethyl) bis(phosphate)(V6)	38051-10-4	253-760-2	Flame retardant	WAC Title 173 CH 173-334 VT Title 18 CH 38A ORS 431A 253-280	50 ppm
Decabromodiphenyl ethane (DBDPE)	84852-53-9	284-366-9	Flame retardant	WAC Title 173 CH 173-334 VT Title 18 CH 38A ORS 431A 253-280	50 ppm
2-ethylhexyl-2,3,4,5-tetrabromobenzoate (TBB)	183658-27-7	814-310-6	Flame retardant	ORS 431A 253-280 WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
4-Nonylphenol; 4-NP and its isomer mixtures including	104-40-5, 84852-15-3, 25154-and 25154-52-3 52-3	203-199-4	Lubrication oil additive, emulsifier, antioxidant, solubilizer	ORS 431A 253-280 WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
3,3'-Dimethylbenzidine and Dyes Metabolized to 3,3'-Dimethylbenzidine	119-93-7	204-358-0	Colorant	ORS 431A 253-280 WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Perfluorohexane sulfonic acid	355-46-4	206-587-1	Surfactant in fire fighting foams, food packaging, stain & water resistant chemicals	VT Title 18 CH 38A	50 ppm
Perfluoroheptanoic acid	375-85-9	206-798-9	Stain and grease resistant coatings	VT Title 18 CH 38A	50 ppm
Perfluorooctanoic acid	335-67-1	206-397-9	Non-stick coatings, oil & grease resistance	WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Perfluorononanoic acid	375-95-1	206-801-3	Non-stick coatings, oil & grease resistance	VT Title 18 CH 38A	50 ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

2,2',3,3',4,4',5,5',6,6'-Decabromodiphenyl ether; BDE-209	1163-19-5	214-604-9	Flame retardant	ORS 431A 253-280 WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Ethylhexyl diphenyl phosphate	1241-94-7	214-987-2	Flame retardant for PVC	WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Tricresyl phosphate	1330-78-5	201-105-6	Plasticizer, Fire retardant	ORS 431A 253-280 WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Phenol, 4-octyl-	1806-26-4	217-302-5	Chemical Intermediate	WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Bis (2-ethylhexyl) tetrabromophthalate	26040-51-7	247-426-5	Flame retardant	ORS 431A 253-280 WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Bis(chloromethyl)propane-1,3-diyl tetrakis-(2-chloroethyl) bis(phosphate)	38051-10-4	253-760-2	Flame retardant	WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Decabromodiphenyl ethane	84852-53-9	284-366-9	Flame retardant	WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
2-ethylhexyl-2,3,4,5-tetrabromobenzoate	183658-27-7	814-310-6	Flame retardant	WAC Title 173 CH 173-334 VT Title 18 CH 38A	50 ppm
Tris (2,3-dibromopropyl) phosphate (TDBPP)	126-72-7	204-799-9	Flame retardant	ORS 431A 253-280	50 ppm
Tri-n-butyl phosphate (TNBP)	126-73-8	204-800-2	Flame retardant	ORS 431A 253-280	50 ppm
Dipentyl phthalate (DPP)	131-18-0	205-017-9	Plasticizer	ORS 431A 253-280	50 ppm
Perfluorooctanoic acid and related substances (PFOA)	335-67-1	206-397-9	water, oil and grease repellent treatments	ORS 431A 253-280	50 ppm
Bis (2-ethylhexyl) tetrabromophthalate (TBPH)	26040-51-7	247-426-5	Plasticizer	ORS 431A 253-280	50 ppm
Isopropylated triphenyl phosphate (IPTPP, PIP3:1)	68937-41-7	273-066-3	Plasticizer, Fire retardant	ORS 431A 253-280	50 ppm

Section 1.4: Children's Products Banned Substances

Garmin products and components must not contain the following substances in amounts at or above the threshold levels.

	CAS Number	EC Number	Typical Use	Regulation	Threshold
Lead and lead compounds	Group	Group	various	CPSIA Title I, Section 101	100 ppm
Lead and lead compounds in surface coatings	Group	Group	Surface coatings	CPSIA Title I, Section 101	90 ppm
Migratable Cadmium	7440-43-9	231-152-8	Children's Jewelry	ASTM F2923-11	300 ppm
Total Cadmium	7440-43-9	231-152-8	Children's Products	WA Children's Safe Products Act	40 ppm
Soluble Antimony	7440-36-0	231-146-5	Children's Products	ASTM F963-11	60 ppm
Soluble Chromium	7440-47-3	231-157-5	Children's Products	ASTM F963-11	60 ppm
Soluble Barium	7440-39-3	231-149-1	Children's Products	ASTM F963-11	1000 ppm
Soluble Mercury	7439-97-6	231-106-7	Children's Products	ASTM F963-11	60 ppm
Soluble Selenium	7782-49-2	231-957-4	Children's Products	ASTM F963-11	500 ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

Soluble Arsenic	7440-38-2	231-148-6	Children's Products	ASTM F963-11	25 ppm
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Section 1.5: Garmin Additional Banned Substances

Garmin products and components must not contain the following substances in amounts at or above the threshold levels.

	CAS Number	EC Number	Typical Use	Regulation	Threshold
Polybrominated biphenyls (PBB) See GADSL link below for list of specific substances.	Group	Group	fire retardant, plastics, foam, fabrics	EU 2011/65/EU	1000ppm
Polybrominated diphenyl ether (PBDE) Includes: - Octa-BDE - Penta-BDE - Deca-BDE	Group 32536-52-0 32534-81-9 1163-19-5	Group	fire retardant, plastics, foam, fabrics	EU 2011/65/EU	1000ppm
Decabromodiphenyl Ether (DecaBDE)	1163-19-5	214-604-9	Flame retardant in plastic	TSCA Section 6(h)	any intentionally added content
Amines, carcinogenic, which are formed from Azo-dyes See GADSL link below for list of specific substances.	group	group	dyes for textiles and leathers	EU-D 2002/61/EC	30ppm
2-Methoxyethanol	109-86-4	203-713-7	Diethylene glycol methyl Ether	SOR/SOR/2005-41	any intentionally added content
2-Naphthylamine and its salts See GADSL link below for list of specific substances.	group	group	Lubricants, rubber/plastic, antioxidant	EU-R 1272/2008/EEC	100ppm
4-Aminobiphenyl and its salts, all members See GADSL link below for list of specific substances.	group	group	-----	EU-R 1272/2008/EEC	100ppm
4-Nitrobiphenyl and its salts See GADSL link below for list of specific substances.	group	group	Lubricants, rubber/plastic, antioxidant	EU-R 1272/2008/EEC	100ppm
All Chlorofluorocarbons (CFC's) See GADSL link below for list of specific substances.	group	group	Solvents, refrigerants, propellants	EU-D 2037/2000/EEC, US EPA ODP class 1	0
All Halons See GADSL link below for list of specific substances.	group	group	fire extinguishers	EU-R 594/91/EEC	0
All Hydrobromofluorocarbons (HBFC's) See GADSL link below for list of specific substances.	group	group	refrigerant	EUR 2009/1005	0

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

All Hydrochlorofluorocarbons (HCFC's) See GADSL link below for list of specific substances.	group	group	refrigerant	EUR 2009/1005	0
All Hydrofluorocarbons (HFC's) See GADSL link below for list of specific substances.	group	group	refrigerant	EUR 2009/1005	0
Perfluorooctane sulfonic acid and its derivatives (PFOS) C8F17SO2X, (X = OH, Metal salt (O-M+), halide, amide, and other derivatives including polymers). See GADSL link below for list of specific substances.	group	group	Surface coating, surface treatment agents for textiles, leather products, paper, other	Stockholm Convention on Persistent Organic Pollutants, Annex B EU/2019/1021	1000ppm Textiles and Coatings less than 1 micro-gram/M2
All Polychlorinated Terphenyls (PCT)	group	group	Insulation fluid, impregnation, agent, softening agent agent, softening agent	ChemVerbotsV	10ppm
Asbestos Fibres See GADSL link below for list of specific substances.	group	group	gaskets, insulations		any intentionally added content
Benzene	71-43-2	200-753-7	solvent		100ppm
Benzidine and its salts See GADSL link below for list of specific substances.	group	group	----	EU-R 1272/2008/EEC	100ppm
Bis(chloromethyl) ether (BCME)	542-88-1	208-832-8	rubber surface treatment	SOR/SOR/2005-41	any intentionally added content
Chlorinated or brominated Dioxins or Furans, all members See GADSL link below for list of specific substances.	group	group	Impurities in products	ChemVerbotsV	10ppb
Chloromethyl methyl ether (CMME)	107-30-2	203-480-1	coolant, propellant, cleaners, solvents, impregnating, agents, blowing agents	SOR/SOR/2005-41	any intentionally added content
Dimethyl Fumerate (DMF)	624-49-7	210-849-0	insecticide, mold inhibitor (leather)	EU 2009/251/EC, EU 98/8/EC	0.1ppm
Formaldehyde	50-00-0	200-001-8	Textiles, carry cases	Norway Product Regulation No. 922 and others	300 ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

Dodecachloropentacyclo 1,3,4-Metheno-1H-cyclobuta(cd)pentalene, Mirex	2385-85-5	219-196-6	flame retardant in plastics, rubber, paint, paper	SOR/SOR/2005-41	any intentionally added content
Hexachloro-1,3-butadiene (HCBd)	87-68-3	201-765-5	rubber compounds, lubricants	SOR/SOR/2005-41 TSCA Section 6(h)	any intentionally added content
Hexachlorobenzene	118-74-1	204-273-9	rubber products	SOR/SOR/2005-41	>10ppb
Lead in PVC	group	group	Stabilizers	CA Prop 65	300 ppm
Lead in accessories (i.e. geocache coins, jewelry, etc.	group	group	Coins, jewelry, etc.	U.S. Consumer Product Safety Improvement Act	100 ppm
N-Nitrosamines See GADSL link below for list of specific substances.	group	group	Rubber Products	German TRGS 615	100ppm
Pentachlorobenzene	608-93-5	210-172-0	flame retardant	SOR/SOR/2005-41	any intentionally added content
Pentachlorophenol (PCP) and its salts See GADSL link below for list of specific substances.	group	group	Wood preservative, leather treatment	EU-R 1272/2008/EEC	1000ppm
Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	3846-71-7	223-346-6	Dyes, intermediate	Japan Chemical Substance Law	1000ppm
Polychlorinated Biphenyls (PCBs) See GADSL link below for list of specific substances.	group	group	Electrical insulation fluid, softening agent		50ppm
Sulfur Hexafluoride	2551-62-4	219-854-2	tire inflator systems	Substance of concern	1000ppm
Tetrachlorobenzene, all members See GADSL link below for list of specific substances.	12408-10-5, 84713-12-2	235-643-8, 283-805-1	---	SOR/SOR/2005-41	any intentionally added content
Tetrafluoromethane	75-73-0	200-896-5	pressure accumulator	Order no. 552 Danish Ministry of the Environment	1000ppm
Dibutyltin and Dioctyltin Tri-substituted organotin	group	group	Biocides, Plastic stabilizers, catalysts, antifouling paints, glass coating, pesticides	Annex XVII EU 276/2010 EU-R 1272/2008/EEC	1000ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

Tris-(2,3-dibromopropyl)phosphate (TRIS)	126-72-7	204-799-9	Flame retardant	EU-D 79/663/EEC	1000ppm
Tris-(1-aziridinyl) phosphine oxide	545-55-1	208-892-5	Flame retardant	EU-D 83/264/EEC	1000ppm
Vinyl chloride monomer	75-01-4	200-831-0	polymer residue	EU-R 1272/2008/EEC	5ppm
Bis-(2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	204-211-0	Plasticizer for PVC and rubber sealants	Denmark Phthalate Ban	1000ppm
Dibutyl phthalate (DBP)	84-74-2	201-557-4	Plasticizer for PVC and rubber sealants	Denmark Phthalate Ban	1000ppm
Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	Plasticizer for PVC and rubber sealants	Denmark Phthalate Ban	1000ppm
Diisobutyl phthalate (DIBP)	84-69-5	201-553-2	Plasticizer, adhesive additive, printing inks	Denmark Phthalate Ban	1000ppm
Polycyclic Aromatic Hydrocarbons (PAH's) - Benzo(a)pyrene - Benzo[e]pyrene - Benzo[a]anthracene - Chrysene - Benzo[b]fluoranthene - Benzo[j]fluoranthene - Benzo[k]fluoranthene - Dibenzo[a,h]anthracene	50-32-8 192-97-2 56-55-3 218-01-9 205-99-2 205-82-3 207-08-9 53-70-3	200-028-5 205-892-7 200-280-6 205-923-4 205-911-9 205-910-3 205-916-6 200-181-8	Plastic and rubber parts	REACH 1907/2006 Annex XVII	1ppm
Perfluorooctanoic acid (PFOA) and its salts	335-67-1 3825-26-1 335-95-5 2395-00-8 335-93-3 335-66-0 376-27-2 3108-24-5	206-397-9 223-320-4 206-404-5 219-248-8 206-402-4 206-396-3 206-808-1 221-468-4	processing aid in the manufacture of fluoropolymers, Textiles, electronics, adhesives, semiconductors, photographic coatings	REACH 1907/2006 Annex XVII Norway Regulation No. 550	25 ppb
Hexabromocyclododecane (HBCDD)	25637-99-4	247-148-4	Flame retardant in polystyrene	REACH 1907/2006 Annex XVII	100ppm
Phenol,Isopropylated Phosphate (3:1) (PIP 3:1)	68937-41-7	273-066-3	PVC tubes, harnesses, cables, gaskets, lubricants, greases, adhesives, and sealants as a flame retardant	TSCA Section 6(h)	any intentionally added content

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

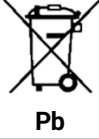
Pentachlorothiophenol (PCTP)	133-49-3	205-107-8	Rubber softener	TSCA Section 6(h)	any intentionally added content
Strontium Chromate	7789-06-2	232-142-6	Corrosion Inhibitor Primer, Aviation Sheet Metal Parts	Aviation authorization required	any intentionally added content
Long-Chain Perfluorinated Carboxylic Acids (LC-PFAC), C9-14, and their salts	(Family)	---	Processing aid for wires, cables, leather, conformal coating coupling agent	REACH Annex XVII #68	any intentionally added content
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	247-384-8	25973-55-1	UV stabilizer in plastics (PP, PU, PC, PVC, polyester, polyacrylates and others), Metal Corrosion Inhibitor	Stockholm Convention on Persistent Organic Pollutants, Annex A	1,000ppm
Dechlorane Plus TM	(Group)	---	Plastic Fire Retardant	Stockholm Convention on Persistent Organic Pollutants, Annex A	1,000 ppm
Hexabromobiphenyl	36355-01-8	252-994-2	General Flame Retardant	Stockholm Convention on Persistent Organic Pollutants, Annex A	any intentionally added content
Hexabromodiphenyl ether (HexaBDE)	36483-60-0	253-058-6	Plastic Flame Retardant	Stockholm Convention on Persistent Organic Pollutants, Annex A	any intentionally added content
Heptabromodiphenyl ether (HeptaBDE)	68928-80-3	273-031-2	Plastic Flame Retardant	Stockholm Convention on Persistent Organic Pollutants, Annex A	any intentionally added content
Hexachlorobutadiene (HCBd)	87-68-3	201-765-5	Solvent and Chemical by-product	Stockholm Convention on Persistent Organic Pollutants, Annex A	any intentionally added content
Polychlorinated naphthalenes (PCNs)	70776-03-3 (Group)	274-864-4 (Group)	Lubricants and electrical dielectrics	Stockholm Convention on Persistent Organic Pollutants, Annex A, Annex C	any intentionally added content or decomposition
Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds	355-46-4 (Group)	206-587-1 (Group)	Surface Treatment/Coatings and semiconductor manufacturing	Stockholm Convention on Persistent Organic Pollutants, Annex A	any intentionally added content, unintentional less than 25 ppb
Short-chained chlorinated paraffins (SCCP)	85535-84-8 (Group)	287-476-5 (Group)	Plastic and Rubber Plasticizer and flame retardant, paints, adhesives, metal working fluids	Stockholm Convention on Persistent Organic Pollutants, Annex A	any intentionally added content

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

Per- and Polyfluorinated Alkyl Substances (PFAS): Total Organic Fluorine Content	(Group)	(Group)	Textile Treatment, including carpets and felts.	California Part 3, Chapter 13.5, Section 108970 of Division 104 Health and Safety Code	January 1, 2025, 100ppm January 1, 2027, 50ppm
Undecafluorohexanoic acid (PFHxA), its salts and related substances	(Group)	(Group)	Textiles, leather, clothing, watchbands, and related accessories	REACH 1907/2006 Annex XVII	any intentional or unintentional use more than 25 ppb

Section 1.6 Batteries and Accumulators

Suppliers are required to comply with the European Union Battery Regulation (EU) 2023/1542 and any subsequent amendments which establishes threshold and labeling requirements for batteries. The (EU) 2023/1542 establishes content thresholds, labeling requirements, and applicable exemptions.

	CAS Number	EC Number	Label	Regulation	Threshold
Mercury (button cell)	7439-97-6	231-106-7	 Hg	Prohibits Hg content in excess of threshold unless applicable exemption applies	2% by weight
Mercury (all other types)	7439-97-6	231-106-7	 Hg	Prohibits Hg content in excess of threshold unless applicable exemption applies	0.0005% by weight
Cadmium	7440-43-9	231-152-8	 Cd	Prohibits Hg content in excess of threshold unless applicable exemption applies	0.002% by weight (see applicable exemptions)
Lead	7439-92-1	231-100-4	 Pb	labeling requirement only	> 0.01% Lead after Aug 18, 2024, no exemptions

Section 1.7 Packaging

Suppliers are required to comply with the European Union Packaging Directive 94/62/EC and any subsequent amendments which establish the maximum thresholds for heavy metals contained in paper and packaging products. This section applies to packaging of any type (paper, plastic, wood, etc.) to be used as primary (product packaging), secondary (grouped packaging such as large box shipments of products to retailers or distributors), and tertiary (transport packaging such as pallets, shrink wrap, etc.) packaging. This section also applies to paper and other materials that can be associated with the packaging process (i.e., packaging labels, insert materials, cushioning materials, etc.). This section does not apply to supplier dunnage.

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

Substances in Packaging and Paper Products	CAS Number	EC Number	Typical Use	Regulation	Threshold
Sum of concentration levels of: - Lead - Cadmium - Mercury - Hexavalent Chromium	7439-92-1 7440-43-9 7439-97-6 18540-29-9	231-110-4 231-152-8 231-106-7 606-053-1	Paper, packaging materials	94/62/EC	100ppm total for all 4 metals combined
Mineral oil with Mineral oil aromatic hydrocarbons (MOAH) consisting of 1 to 7 aromatic rings	(Family)	----	printing ink of packaging and printed materials	FR Decree 2020-105	<1% pre-applied ink Jan 1, 2023 <0.1% pre-applied ink Jan 1, 2025
Mineral oil with MOAH consisting of 3 to 7 rings	(Family)	----	printing ink of packaging and printed materials	FR Decree 2020-105	<1 ppm pre-applied ink Jan 1, 2025
Mineral oil with mineral oil saturated hydrocarbons (MOSH) consisting of 16 to 35 carbon atoms	(Family)	----	printing ink of packaging and printed materials	FR Decree 2020-105	<0.1% pre-applied ink Jan 1, 2025

Section 2: Restricted and Declarable Substances

Section 2.1: REACH Declarable Substances

For substances at or above the threshold levels, suppliers must provide Garmin with information on the presence and content of the following substances in products, components and materials prior to the initial shipment of each product, component or material. This list will be updated periodically by the European Chemicals Agency (EChA). Suppliers are required to provide updated information with each new listing generated by the EChA.

	CAS Number	EC Number	Typical Use	Release Date	Threshold
4,4'-Diaminodiphenylmethane (MDA)	101-77-9	202-974-4	Hardener for epoxy resins and adhesives	28-Oct-08	1000ppm
5-tert-butyl-2-4-6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	Fragrance enhancer, detergents, fabric softeners	28-Oct-08	1000ppm
Alkanes, C10-13, Chloro (Chlorinated Paraffin) (Short Chain Chlorinated Paraffins, SCCP)	85535-84-8	287-476-5	Flame retardant, plasticizer for rubber, sealants, coatings	28-Oct-08	1000ppm
Anthracene	120-12-7	204-371-1	dye intermediate, insecticide, fungicide	28-Oct-08	1000ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	Plasticizer for PVC and rubber sealants	28-Oct-08	1000ppm
Bis (2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	204-211-0	Plasticizer for PVC and rubber sealants	28-Oct-08	1000ppm
Tributyltin Oxide (TBTO)	56-35-9	200-268-0	polyurethane foam, polymer catalyst, paint preservative	28-Oct-08	1000ppm
Cobalt dichloride	7646-79-9	231-589-4	drying agent	28-Oct-08	1000ppm
Diarsenic pentaoxide	1303-28-2	215-116-9	dyes, special glasses, wood preservative	28-Oct-08	1000ppm
Diarsenic trioxide	1327-53-3	215-481-4	leather and wood preservative	28-Oct-08	1000ppm
Dibutyl phthalate (DBP)	84-74-2	201-557-4	Plasticizer for PVC and rubber sealants	28-Oct-08	1000ppm
Hexabromocyclododecane (HBCDD)and all major diastereoisomers	25637-99-4	247-148-4	Flame retardant in polystyrene	28-Oct-08	1000ppm
Lead hydrogen arsenate	7784-40-9	232-064-2	insecticide	28-Oct-08	1000ppm
Sodium dichromate	10588-01-97789-12-0	243-190-3	metal finishing, leather tanning, textile dyeing	28-Oct-08	1000ppm
Triethyl arsenate	15606-95-8	427-700-2	Plastic and PVC, electrical equipment, textiles, wood preservative	28-Oct-08	1000ppm
2,4 Dinitrotoluene	121-14-2	204-450-0	polyurethane foam, azo dyes, rubber and plastics	13-Jan-10	1000ppm
Anthracene OilAnthracene Oil, anthracene pasteAnthracene Oil, anthracene paste, anthracene fractionAnthracene Oil, anthracene paste, distn. LightsAnthracene Oil, anthracene-low	90640-80-590640-81-691995-15-291995-17-490640-82-7	292-602-7292-603-2295-275-9295-278-5292-604-8	paint and sealing coats, wood preservatives, dyestuff, insecticides	13-Jan-10	1000ppm
Diisobutyl phthalate	84-69-5	201-553-2	plasticizer, adhesive additive, printing inks	13-Jan-10	1000ppm
Lead chromate	7758-97-6	231-846-0	pigments and dyes, photosensitive materials	13-Jan-10	1000ppm
Lead chromate molybdate sulfate red (C.I. Pigment Red)	12656-85-8	235-759-9	paint and printing inks, rubber, plastic, paper, leather finishing	13-Jan-10	1000ppm
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	215-693-7		13-Jan-10	1000ppm
Coal tar pitch, high temperature	65996-93-2	266-028-2	corrosion protection, wood preservative	13-Jan-10	1000ppm
Tris (2-chloroethyl) phosphate	115-96-8	204-118-5	flame retardant, plasticizer, PU foams PVC, plastics, rubber	13-Jan-10	1000ppm
Acrylamide	79-06-1	201-173-7	coatings and paints, dye	30-Mar-10	1000ppm
Ammonium dichromate	7789-09-5	232-143-1	metal treatment, leather tanning	18-Jun-10	1000ppm

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Boric Acid	10043-35-3	233-139-2	biocides, glass, ceramics, rubber, flame retardants, paints, soldering products	18-Jun-10	1000ppm
Disodium tetraborate, anhydrous	1330-43-4	215-540-4	glass and glass fibers, ceramics, adhesives, flame retardants, biocides	18-Jun-10	1000ppm
Potassium chromate	7789-00-6	232-140-5	metal coatings, ceramic coloring agent, leather tanning, pigment and inks	18-Jun-10	1000ppm
Potassium dichromate	7778-50-9	231-906-6	chroming, metal treatments, photolithography	18-Jun-10	1000ppm
Sodium chromate	7775-11-3	231-889-5	mfg of chromium compounds	18-Jun-10	1000ppm
Tetraboron disodium heptaoxide, hydrate	12267-73-1	235-541-3	glass and glass fibers, ceramics, adhesives, flame retardants, biocides	18-Jun-10	1000ppm
Trichloroethylene	79-01-06	201-167-4	Industrial solvent, adhesive carrier	18-Jun-10	1000ppm
2-Ethoxyethanol	110-80-5	203-804-1	solvent, chemical intermediate	15-Dec-10	1000ppm
2-Methoxyethanol	109-864	203-713-7	solvent, fuel additive, chemical intermediate	15-Dec-10	1000ppm
Acids generated from chromium trioxide and their oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid	7798-94-5 513530-68-2	231-801-5236-881-5	Metal finishing, wood preservative, fixing agent	15-Dec-10	1000ppm
Chromium trioxide	1333-82-0	215-607-8	metal finishing, wood preservative fixing agent	15-Dec-10	1000ppm
Cobalt (II) carbonate	513-79-1	208-169-4	chemical production, catalysts, feed additive, pigments, adhesives	15-Dec-10	1000ppm
Cobalt (II) diacetate	71-48-7	200-755-8	chemical production, catalysts, surface treatment, alloys, pigments, dyes, rubber adhesion, feed additive	15-Dec-10	1000ppm
Cobalt (II) dinitrate	10141-05-6	233-402-1	chemical production, catalysts, surface treatment, batteries	15-Dec-10	1000ppm
Cobalt (II) sulphate	10124-43-3	233-334-2	chemical production, catalysts, driers, surface treatment, corrosion prevention, pigments, batteries, animal food supplements, fertilizer	15-Dec-10	1000ppm
1,2,3-trichloropropane	96-18-4	202-486-1	Pesticides, chlorinated solvents	20-Jun-11	1000ppm
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	276-158-1	PVC additive	20-Jun-11	1000ppm

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1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	271-084-6	PVC additive	20-Jun-11	1000ppm
1-methyl-2-pyrrolidone	872-50-4	212-828-1	Coatings, electronics, pharmaceuticals	20-Jun-11	1000ppm
2-ethoxyethyl acetate	111-15-9	203-839-2	Chemicals, plastics, rubber	20-Jun-11	1000ppm
Hydrazine	302-01-2	206-114-9	Chemical intermediate	20-Jun-11	1000ppm
Strontium chromate	7789-06-2	232-142-6	Automobile and aerospace industries	20-Jun-11	1000ppm
1,2-dichloroethane	107-06-2	203-458-1	Chemical intermediate, solvent	19-Dec-11	1000ppm
2,2'-dichloro-4,4'-methylenedianiline	101-14-4	202-918-9	Resins and polymers	19-Dec-11	1000ppm
2-Methoxyaniline; o-Anisidine	90-04-0	201-963-1	Colorant for paper, polymers and aluminum foil	19-Dec-11	1000ppm
4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	205-426-2	Component in adhesives, coatings, inks and rubber	19-Dec-11	1000ppm
Aluminosilicate Refractory Ceramic Fibres (REACH6)	----	----	Automotive and aviation industry high- temperature insulation, fire protection	19-Dec-11	1000ppm
Arsenic acid	7778-39-4	231-901-9	Used in production of printed circuit boards	19-Dec-11	1000ppm
Bis(2-methoxyethyl) ether	111-96-6	203-924-4	Solvent used in battery electrolytes, sealants, adhesives and automotive products	19-Dec-11	1000ppm
Bis(2-methoxyethyl) phthalate	117-82-8	201-212-6	Plasticizer in polymers, paints, lacquers and inks	19-Dec-11	1000ppm
Calcium arsenate	7778-44-1	231-904-5	Used as a chemical precipitant	19-Dec-11	1000ppm
Dichromiumtris(chromate)	24613-89-6	246-356-2	Aeronautic/aerospace metal surface treatment and coatings	19-Dec-11	1000ppm
Formaldehyde, oligomeric reaction products with aniline	25214-70-4	500-036-1	Chemical intermediate, adhesives, Coatings	19-Dec-11	1000ppm
Lead diazide, Lead azide	13424-46-9	236-542-1	pyrotechnics	19-Dec-11	1000ppm
Lead dipicrate	6477-64-1	229-335-2	explosives	19-Dec-11	1000ppm
Lead styphnate	15245-44-0	239-290-0	Pyrotechnics and ammunition	19-Dec-11	1000ppm
N, N-dimethylacetamide	127-19-5	204-826-4	Reagent in coatings, films, paint strippers and ink removers	19-Dec-11	1000ppm
Pentazinc chromate octahydroxide	49663-84-5	256-418-0	Vehicle and aeronautic / aerospace coatings	19-Dec-11	1000ppm

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Phenolphthalein	77-09-8	201-004-7	pH paper	19-Dec-11	1000ppm
Potassium hydroxyoctaoxodizincatedichromate	11103-86-9	234-329-8	Aeronautic/aerospace metal coatings	19-Dec-11	1000ppm
Trilead diarsenate	3687-31-8	222-979-5	Metals processing	19-Dec-11	1000ppm
Zirconia Aluminosilicate Refractory Ceramic Fibres (REACH6)	---	---	Automotive and aviation industry high- temperature insulation, fire protection	19-Dec-11	1000ppm
1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	203-794-9	Used as an electrolyte solvent in lithium batteries	18-Jun-12	1000ppm
1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	203-977-3	Solvent or as a processing aid in the manufacture and formulation of chemicals	18-Jun-12	1000ppm
1,3,5-tris(oxiranylmethyl)-1,3,5- triazine-2,4,6(1H,3H,5H)-trione (TGIC)	2451-62-9	219-514-3	Used as a hardener in in resins and coatings in inks for the printed circuit board industry, electrical insulation material, resin molding systems, laminated sheeting, silk screen printing coatings, tools, adhesives, lining materials and for plastics	18-Jun-12	1000ppm
1,3,5-tris[(2S and 2R)-2,3- epoxypropyl]-1,3,5- triazine-2,4,6- (1H,3H,5H)-trione (β-TGIC)	59653-74-6	423-400-0	Used as a solder mask ink and in electrical insulation material, molding systems, laminated sheeting, silk screen printing, coatings, tools, adhesives, lining materials and for	18-Jun-12	1000ppm
4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	561-41-1	209-218-2	Used in formulation of writing inks, other inks, dyeing materials	18-Jun-12	1000ppm
4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	202-027-5	Used as an intermediate in the manufacture of triphenylmethane dyes and other substances and as an additive (photosensitiser) in dyes and pigments, in dry film products and as a process chemical in the production of electronic circuit boards	18-Jun-12	1000ppm
[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien- 1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)	548-62-9	208-953-6	Used for paper coloring and inks supplied in printer cartridges	18-Jun-12	1000ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cy clohexa- 2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26)	2580-56-5	219-943-6	Used in the formulation of inks, cleaners, and coatings and for dyeing paper, packaging, textiles, plastic products, and other types of articles	18-Jun-12	1000ppm
Diboron trioxide	1303-86-2	215-125-8	Used in glass and glass fibers, frits, ceramics, flame retardants, catalysts, industrial fluids, metallurgy, nuclear, electrical equipment, adhesives, inks/paints, film developing solutions, detergents and reagent chemicals, biocides and insecticides	18-Jun-12	1000ppm
Formamide	75-12-7	200-842-0	Used as an intermediate in the manufacture of agrochemicals, pharmaceuticals and industrial chemicals, also used as a plasticizer	18-Jun-12	1000ppm
Lead(II) bis(methanesulfonate)	17570-76-2	401-750-5	Mainly used in plating processes (both electrolytic and electroless) for electronic components (such as printed circuit boards). The substance seems to also be used for batteries in special applications	18-Jun-12	1000ppm
N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	202-959-2	Used as an intermediate in the manufacture of dyes and other substances	18-Jun-12	1000ppm
α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4)	6786-83-0	229-851-8	Used in the formulation of printing and writing inks and for dyeing paper	18-Jun-12	1000ppm
1,2-Benzenedicarboxylic acid, dipentylester	84777-06-0	284-032-2	Used as plasticizers in plastic material	19-Dec-12	1000ppm
1,2-Diethoxyethane	629-14-1	211-076-1	1,2-diethoxyethane belongs to the glyme family of chemicals Glymes are used in various applications in electronic industry	19-Dec-12	1000ppm
n-propyl bromide (1-bromopropane)	106-94-5	203-445-0	Use as an industrial solvent for vapor degreasing – washing and cleaning products	19-Dec-12	1000ppm
3-ethyl-2-methyl-2-(3-methylbutyl)- 1,3-oxazolidine	143860-04-2	421-150-7	Use in urethane coatings, sealants and elastomers	19-Dec-12	1000ppm

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4,4'-methylenedi-o-toluidine	838-88-0	212-658-8	Chemical intermediate	19-Dec-12	1000ppm
4,4'-oxydianiline and its salts	101-80-4	202-977-0	Monomer in imported polymer - Intermediate	19-Dec-12	1000ppm
4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated			Formulation of paints Industrial end-use of paints use of ethoxylates in emulsion polymerisation use as intermediate for the production of ether sulphates	19-Dec-12	1000ppm
4-Aminoazobenzene	60-09-3	200-453-6	Intermediate - Pigment production	19-Dec-12	1000ppm
Toluene-2,4-diamine (4-methyl-m-phenylenediamine)	95-80-7	202-453-1	Intermediate Chemical Synthesis Intermediate in production of sulfur dyes	19-Dec-12	1000ppm
4-Nonylphenol, branched and linear			Washing of imported textiles Paints and Printing Inks Used in paper production as a component of phenolic resins used in coatings Used in water-based adhesives in the textile industry, pulp and paper industry, printing-works, construction industry, and in the plastic products industry May be used as antioxidants and plasticizers in plastic products	19-Dec-12	1000ppm
p-cresidine (6-methoxy-m-toluidine)	120-71-8	204-419-1	Intermediate - raw material for manufacturing pigments	19-Dec-12	1000ppm
[Phthalato(2-)]dioxotrilead	69011-06-9	273-688-5	PVC Processing Manufacture of plastic articles Lead-stabilized plastic materials	19-Dec-12	1000ppm
Acetic acid, lead salt, basic	51404-69-4	257-175-3	Coatings and paints, thinners, paint removers Manufacture of computer, electronic and optical products, electrical equipment	19-Dec-12	1000ppm
Biphenyl-4-ylamine	92-67-1	202-177-1	Used to manufacture azo dyes	19-Dec-12	1000ppm
Bis(pentabromophenyl) ether (decabromodiphenyl ether) (DecaBDE)	1163-19-5	214-604-9	Flame retardant Elastomers often used for wire and cable insulation	19-Dec-12	1000ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

Cyclohexane-1,2-dicarboxylic anhydride all possible combinations of the cis- and trans-isomers	--	--	Plasticizers for thermoplastic polymers Use as hardener for epoxy resins	19-Dec-12	1000ppm
Diazene-1,2-dicarboxamide (C,C'-azodi(formamide)) (ADCA)	123-77-3	204-650-8	Used as a blowing agent in the rubber and plastics industry	19-Dec-12	1000ppm
Dibutyltin dichloride (DBTC)	683-18-1	211-670-0	Used as an additive in rubber, stabilizer in PVC plastics, catalyzer in the production of polyurethanes and silicones; use in insulations and coatings	19-Dec-12	1000ppm
Diethyl sulphate	64-67-5	200-589-6	Intermediate: Chemicals Polymers (reactant in synthesis)	19-Dec-12	1000ppm
Diisopentyl phthalate	605-50-5	210-088-4	Used as plasticizer for PVC products and other polymers	19-Dec-12	1000ppm
Dimethyl sulphate	77-78-1	201-058-1	Intermediate: Chemicals Polymers	19-Dec-12	1000ppm
Dinoseb (6-sec-butyl-2,4- dinitrophenol)	88-85-7	201-861-7	Polymers - formulation step, manufacture Plastic products	19-Dec-12	1000ppm
Dioxobis(stearato)trilead	12578-12-0	235-702-8	PVC Processing Manufacture of plastic articles Use of lead metal in lead oxide production and use of lead oxide in stabilizer production Lead-stabilized plastic materials	19-Dec-12	1000ppm
Fatty acids, C16-18, lead salts	91031-62-8	292-966-7	PVC Processing Manufacture of plastic articles Use of lead metal in lead oxide production and use of lead oxide in stabilizer production Lead-stabilized plastic materials	19-Dec-12	1000ppm
Furan	110-00-9	203-727-3	Chemical intermediate	19-Dec-12	1000ppm
Henicosafuoroundecanoicacid	2058-94-8	218-165-4	Production of fluoropolymers and fluorotelomers and as additives and components in consumer and industrial products	19-Dec-12	1000ppm
Heptacosafuorotetradecanoicacid	376-06-7	206-803-4	Fluoropolymer dispersions for further processing. Residuals or impurities in articles containing fluoropolymers	19-Dec-12	1000ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

Hexahydromethylphthalic anhydride and its isomers	25550-51-019438-60-948122-14-157110-29-9	247-094-1243-072-0256-356-4260-556-1	Used in the manufacture of polyester and alkyd resins and plasticizers for thermoplastic polymers	19-Dec-12	1000ppm
Leadbis(tetrafluoroborate)	13814-96-5	237-486-0	Metal surface treatment products, including galvanic and electroplating products	19-Dec-12	1000ppm
Lead cyanamidate	20837-86-9	244-073-9	Use in electrocoating	19-Dec-12	1000ppm
Lead dinitrate	10099-74-8	233-245-9	Coatings and paints, thinners, paint removers	19-Dec-12	1000ppm
Lead monoxide (lead oxide)	1317-36-8	215-267-0	Manufacture of plastics products, including compounding and conversion manufacture of computer, electronic and optical products, electrical equipment	19-Dec-12	1000ppm
Lead oxide sulfate	12036-76-9	234-853-7	PVC Processing Manufacture of plastic articles Use of lead metal in lead oxide production and use of lead oxide in stabilizer production Lead-stabilized plastic Materials	19-Dec-12	1000ppm
Lead titanium trioxide	12060-00-3	235-038-9	Semiconductors Manufacture of computer, electronic and optical products, electrical equipment Machinery, mechanical appliances, electrical/electronic articles	19-Dec-12	1000ppm
Lead titanium zirconium oxide	12626-81-2	235-727-4	Manufacture of LTZ: Manufacture of computer, electronic and optional products, electrical equipment machinery, mechanical appliances, electrical/electronic articles processing into electro-ceramic components manufacture of piezoceramic	19-Dec-12	1000ppm
Methoxyacetic acid	625-45-6	210-894-6	Manufacture of chemicals and chemicals products	19-Dec-12	1000ppm
Methyloxirane (Propylene oxide)	75-56-9	200-879-2	Manufacture of plastics products. Manufacture of computer, electronic and optical products, electrical equipment Adhesives, sealants	19-Dec-12	1000ppm

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N, N-dimethylformamide	68-12-2	200-679-5	Use of DMF in electronics, mainly in the manufacture of printed circuit boards Used as a cleaning solvent in the leather or artificial leather industry, and in the manufacturing of electrical allocation equipment and circuitry metal industry Use as a process solvent for the manufacture of substances including polymers used e.g. in plastics, artificial leathers, coatings, resins	19-Dec-12	1000ppm
N-methylacetamide	79-16-3	201-182-6	Production of chemical Formulation of preparations	19-Dec-12	1000ppm
N-pentyl-isopentylphthalate	776297-69-9		Can be used as plasticisers in plastic material.	19-Dec-12	1000ppm
o-aminoazotoluene	97-56-3	202-591-2	Used as a chemical intermediate for the production of the dyes C.I. solvent red 24 and C.I. acid red 115	19-Dec-12	1000ppm
o-Toluidine	95-53-4	202-429-0	Used as a chemical intermediate for the production of the dyes C.I. solvent red 24 and C.I. acid red 115	19-Dec-12	1000ppm
Orange lead (lead tetroxide)	1314-41-6	215-235-6	Use of orange lead in lead acid battery production	19-Dec-12	1000ppm
Pentacosafuorotridecanoic acid	72629-94-8	276-745-2	Electronic coatings, degreasing	19-Dec-12	1000ppm
Pentalead tetraoxide sulphate	12065-90-6	235-067-7	PVC Processing Manufacture of plastic articles Electrical batteries and accumulators Lead-stabilized plastic materials	19-Dec-12	1000ppm
Pyrochlore, antimony lead yellow	8012-00-8	232-382-1	Coatings and paints, thinners, paint removers, inks and toners, stone, plaster, cement, glass and ceramic articles	19-Dec-12	1000ppm
Silicic acid, barium salt, lead-doped	68784-75-8	272-271-5	Used for coating glass lamp bulbs: Coatings and paints, thinners, paint removers	19-Dec-12	1000ppm
Silicic acid, lead salt	11120-22-2	234-363-3	Stone, plaster, cement, glass and ceramic articles	19-Dec-12	1000ppm
Sulfurous acid, lead salt, dibasic	62229-08-7	263-467-1	PVC Processing Manufacture of plastic	19-Dec-12	1000ppm

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			articles Use of lead metal in lead oxide production and use of lead oxide in stabilizer production		
Tetraethyllead	78-00-2	201-075-4	Fuel additives and fuel blends	19-Dec-12	1000ppm
Tetralead trioxide sulphate	12202-17-4	235-380-9	PVC Production: Plastic articles Lead battery Production: Manufacture of computer, electronic and optical products, electrical equipment	19-Dec-12	1000ppm
Tricosafuorododecanoicacid	307-55-1	206-203-2	Unintended impurity in per- and polyfluorinated chemicals containing a carbon chain of less than nine carbon atoms	19-Dec-12	1000ppm
Trilead bis(carbonate)dihydroxide	1319-46-6	215-290-6	PTC Ceramic Materials (End Sector: Semiconductors)	19-Dec-12	1000ppm
Trilead dioxide phosphonate	12141-20-7	235-252-2	PVC Processing: Plastic articles Electrical batteries and accumulators	19-Dec-12	1000ppm
4-Nonylphenol, branched and linear, ethoxylated			Surfactants	20-Jun-13	1000ppm
Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	223-320-4	Water & oil repellant in textiles	20-Jun-13	1000ppm
Cadmium	7440-43-9	231-152-8	Use in electroplating and metal coatings, batteries	20-Jun-13	1000ppm
Cadmium oxide	1306-19-0	215-146-2	Plating baths, electrodes for batteries, pigments	20-Jun-13	1000ppm
Dipentyl phthalate (DPP)	131-18-0	205-017-9	Plasticizer in PVC	20-Jun-13	1000ppm
Pentadecafluorooctanoic acid (PFOA)	335-67-1	206-397-9	Surfactant, Used in manufacture of materials with Trade names: Teflon, Gore-Tex	20-Jun-13	1000ppm
Cadmium sulphide	1306-23-6	215-147-8	Pigment	16-Dec-13	1000ppm
Dihexyl phthalate (DNHP)	84-75-3	201-559-5	Plasticizer	16-Dec-13	1000ppm
Disodium 4-amino-3-[[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] - 5-hydroxy-6 (phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	217-710-3	Dye	16-Dec-13	1000ppm
Disodium 3,3'-[[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	209-358-4	Dye, biological staining, pH indicator	16-Dec-13	1000ppm
Imidazolidine-2-thione; 2- imidazoline-2-thiol (ETU)	96-45-7	202-506-9	Rubber goods	16-Dec-13	1000ppm

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Lead di(acetate)	301-04-2	206-104-4	Coatings, paints, paint remover, thinners plasters and putties	16-Dec-13	1000ppm
Trixylyl phosphate (TXP)	25155-23-1	246-677-8	Flame retardant in plastic, plasticizer, hydraulic fluids, lubricants, grease products and metal working fluids	16-Dec-13	
Diisohexyl phthalate (DIHP); 1,2-Benzenedicarboxylic acid	68515-50-4	271-093-5	Lubricant in steering fluid, plasticizer	16-Jun-14	1000ppm
Cadmium chloride	10108-64-2	233-296-7	Pigment, chemical intermediate, photocopying, electroplating	16-Jun-14	1000ppm
Sodium perborate, perboric acid, sodium salt	11138-47-9	239-172-9234-390-0	Detergent, bleaching agent	16-Jun-14	1000ppm
Sodium peroxometaborate	7632-04-4	231-556-4	Detergent, bleaching agent, disinfectant, preservative	16-Jun-14	1000ppm
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol(UV-328)	25973-55-1	247-384-8	UV stabilizer in plastics (PP, PU, PC, PVC, polyester, polyacrylates and others)	17-Dec-14	1000ppm
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	223-346-6	UV stabilizer in plastics (PVC, PC, PET, PA, ABS and	17-Dec-14	1000ppm
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	239-622-4	Reaction Mass	17-Dec-14	1000ppm
Cadmium fluoride	7790-79-6	232-222-0	Production of metallic alloys	17-Dec-14	1000ppm
Cadmium sulphate	10124-36-431119-53-6	233-331-6	Pigment, stabilizer in plastics (PVC), dyes, electroplating, batteries, semiconductors, paints, glass, ceramics, textiles, paper, diodes and photomultipliers	17-Dec-14	1000ppm
(REACTION MASS OF DOTE AND MOTE)	-	-	-	17-Dec-14	1000ppm
1,2-benzenedicarboxylic acid, di-C6- 10-alkyl	68515-51-568648-93-1	271-094-0272-12-1	plasticisers and lubricants, including use in adhesives, coatings, building materials, cable compounding, polymer foils, PVS compounds	15-Jun-15	1000ppm
5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane; 5- sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane	-	-	fragrance ingredient	15-Jun-15	1000ppm
1,3-propanesultone	1120-71-4	214-317-9	Electrolyte fluid in lithium ion batteries	17-Dec-15	1000ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8	UV-protection agents in coatings, plastics, and rubber	17-Dec-15	1000ppm
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	253-037-1	UV-protection agents in coatings, plastics, and rubber	17-Dec-15	1000ppm
Nitrobenzene	98-95-3	202-716-0	Chemical intermediate	17-Dec-15	1000ppm
Perfluorononanoic acid and its sodium and ammonium salts	375-95-121049-39-84149-60-4	206-801-3	Processing aid for fluoropolymer manufacturing, lubricating oil additive, cleaning agent, waterproofing agent, used in LCD panels	17-Dec-15	1000ppm
Benzo[def]chrysene (Benzo[alpha]pyrene)	50-32-8	200-028-5	Impurity or contaminant in plastics	20-Jun-16	1000ppm
4,4'-isopropylidenediphenol (Bisphenol A)	80-05-7	201-245-8	Additive used in polycarbonate plastics and epoxy resins	12-Jan-17	1000ppm
4-heptylphenol, branched and linear (4-HPbl)	-	-	Lubricant	12-Jan-17	1000ppm
Nonadecafluorodecanoic acid and its sodium and ammonium salts (PFDA)	335-76-2	206-400-3	Plasticizer, lubricant and surfactant	12-Jan-17	1000ppm
p-(1,1-dimethylpropyl)phenol	80-46-6	201-280-9	Chemical intermediate used in perfumes and in the production of adhesives, coatings and	12-Jan-17	1000ppm
Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	-	-	Water repellent coatings	07-Jun-17	1000ppm
Dechlorane Plus™ (Dodecachloropentacyclo[12.2.1.16,9.01,13.05,10]octadeca-7,15-diene)	-	-	Flame retardant	15-Jan-18	1000ppm
Benz[a]anthracene	56-55-31718-53-2	200-280-6	Constituent of tobacco smoke	15-Jan-18	1000ppm
Cadmium carbonate	513-78-0	208-168-9	Used in fungicides and chemical reagents	15-Jan-18	1000ppm
Cadmium hydroxide	21041-95-2	244-158-5	Used in nickel-cadmium and silver-cadmium batteries	15-Jan-18	1000ppm
Cadmium nitrate	10022-68-110325-94-7	233-710-6	Used for coloring glass and porcelain and as a flash powder in photography	15-Jan-18	1000ppm
Chrysene	218-01-91719-03-5	205-923-4	Constituent of coal tar	15-Jan-18	1000ppm
Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP)	-	-	N/A	15-Jan-18	1000ppm
Benzene-1,2,4-tricarboxylic acid 1,2 anhydride trimellitic anhydride; TMA	552-30-7	209-008-0	laboratory chemicals	27-Jun-18	1000ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

Benzo[ghi]perylene	191-24-2	205-883-8	impurity in coal and petroleum substances	27-Jun-18	1000ppm
Decamethylcyclopentasiloxane D5	541-02-6	208-764-9	washing & cleaning products, polishes and waxes, textile treatment products and dyes	27-Jun-18	1000ppm
Dicyclohexyl phthalate DCHP	84-61-7	201-545-9	adhesives, sealants, coating, fillers, putties, plasters, surface treatment products, inks, toners, polishes, waxes, polymers, textile, dyes.	27-Jun-18	1000ppm
Disodium octaborate	12008-41-2	234-541-0	lubricants and greases and washing & cleaning products	27-Jun-18	1000ppm
Dodecamethylcyclohexasiloxane D6	540-97-6	208-762-8	washing & cleaning products, polishes and waxes	27-Jun-18	1000ppm
Ethylenediamine EDA	107-15-3	203-468-6	Adhesives, sealants, coating, fillers, putties	27-Jun-18	1000ppm
Lead	7439-92-1	231-100-4	Metals and metal alloys	27-Jun-18	1000ppm
Octamethylcyclotetrasiloxane D4	556-67-2	209-136-7	washing & cleaning products and polishes and waxes	27-Jun-18	1000ppm
Terphenyl, hydrogenated	61788-32-7	262-967-7	packaging	27-Jun-18	1000ppm
1,7,7-trimethyl-3-(phenylmethylene) bicyclo[2.2.1]heptan-2-one or 3- benzylidene camphor or 3-BC	15087-24-8	239-139-9	Used in dyes and pigments	01-Jan-19	1000ppm
2,2-bis(4'-hydroxyphenyl)-4- methylpentane	6807-17-6	401-720-1	Polycyclic Aromatic Hydrocarbon found in rubber and plastics	01-Jan-19	1000ppm
Benzo[k]fluoranthene	207-08-9	205-916-6	Polycyclic Aromatic Hydrocarbon found in rubber and plastics	01-Jan-19	1000ppm
Fluoranthene	206-44-093951-69-0	205-912-4	Polycyclic Aromatic Hydrocarbon found in rubber and plastics	01-Jan-19	1000ppm
Phenanthrene	85-01-8	201-581-5	Polycyclic Aromatic Hydrocarbon found in rubber and plastics	01-Jan-19	1000ppm
Pyrene	129-00-01718-52-1	204-927-3	Polycyclic Aromatic Hydrocarbon found in rubber and plastics	01-Jan-19	1000ppm
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides (covering any of their individual isomers and combinations thereof)	-	-	Fluorinated Polymer processing aid	16-Jul-19	1000ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

2-methoxyethyl acetate	110-49-6	203-772-9	solvent for resins, oils, greases and inks	16-Jul-19	1000ppm
4-tert-butylphenol	98-54-4	202-679-0	Coatings, plastics, adhesives, sealants	16-Jul-19	1000ppm
Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with $\geq 0.1\%$ w/w of 4-nonylphenol, branched and linear (4-NP)	-	-	Plastic and Rubber Antioxidant	16-Jul-19	1000ppm
2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	119313-12-1	404-360-3	polymer production	16-Jan-20	1000ppm
2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	400-600-6	polymer production	16-Jan-20	1000ppm
Diisohexyl phthalate	71850-09-4	276-090-2	Inks, paints, sealants, not in PVC.	16-Jan-20	1000ppm
Perfluorobutane sulfonic acid (PFBS) and its salts	-	-	catalyst/ additive/reactant in polymer manufacture. PC flame retardant	16-Jan-20	1000ppm
1-vinylimidazole	1072-63-5	214-012-0	UV lacquers, inks and adhesives for coatings and lacquers	25-Jun-20	1000ppm
2-methylimidazole	693-98-1	211-765-7	manufacture of dyes, pigments, rubber, epoxy resin for semiconductor potting compounds and soldering masks; Component of polymers including epoxy resin pastes, acrylic rubber-fluororubber	25-Jun-20	1000ppm
Butyl 4-hydroxybenzoate	94-26-8	202-318-7	cosmetics and personal care products and pharmaceuticals	25-Jun-20	1000ppm
Dibutylbis(pentane-2,4-dionato- O,O')tin	22673-19-4	245-152-0	adhesives and sealants, paints and coating	25-Jun-20	1000ppm
Bis(2-(2-methoxyethoxy)ethyl)ether	205-594-7	143-24-8	Used as a solvent/extraction agent	19-Jan-21	1000ppm
Diocetyl tin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety	-	-	Used in the production of plastics and rubber	19-Jan-21	1000ppm
1,4-dioxane	123-91-1	204-661-8	Solvent	08-Jul-21	1000ppm
2,2-bis(bromomethyl)propane 1,3-diol (BMP); 2,2-dimethylpropan-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA); 2,3-dibromo-1-propanol (2,3-DBPA)	3296-90-036483-57-5 1522-92-5 96-13-9	221-967-7253-057-0202-480-9	Manufacture of polymer resins and in one component foam. Polymer production manufacture of plastics products, including compounding and conversion and as an intermediate.	08-Jul-21	1000ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers	-	-	Cleaning agents, polishes and wax blends.	08-Jul-21	1000ppm
4,4'-(1-methylpropylidene)bisphenol	77-40-7	201-025-1	Manufacture of phenolic and polycarbonate resin	08-Jul-21	1000ppm
Glutaral	111-30-8	203-856-5	Biocides, leather tanning	08-Jul-21	1000ppm
Medium-chain chlorinated paraffins (MCCP) (UVCB substances consisting of more than or equal to 80% linear chloroalkanes with carbon chain lengths within the range from C14 to C17)	-	-	Flame retardants, plasticising additives in plastics, sealants, rubber and textiles.	08-Jul-21	1000ppm
Orthoboric acid, sodium salt	13840-56-7	237-560-2	solvent and corrosion inhibitor	08-Jul-21	1000ppm
Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP)	-	-	Preparation of lubricant additive materials	08-Jul-21	1000ppm
(±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC)	-	-	UV protector in human sunscreen products	17-Jan-22	1000ppm
6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	119-47-1	204-327-1	Uncured cyano acrylate adhesives. Antioxidant in clear and lightly colored sulfur vulcanized rubber	17-Jan-22	1000ppm
S-(tricyclo(5.2.1.0 ^{2,6})deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate	255881-94-8	401-850-9	Lubricant additive	17-Jan-22	1000ppm
tris(2-methoxyethoxy)vinylsilane	1067-53-4	213-934-0	Coupling agent for mineral fibers in filled polymers	17-Jan-22	1000ppm
N-(hydroxymethyl)acrylamide	924-42-5	213-103-2	Polymerization monomer, Paints and Coatings	10-Jun-22	1000ppm
1,1'-[ethane-1,2-diylbis(oxy)]bis[2,4,6-tribromobenzene] (BTBPE)	37853-59-1	253-692-3	Not registered under REACH, seen as a measure to avoid regrettable substitution	17-Jan-23	1000ppm
2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol (TBBPA)	79-94-7	201-236-9	Used as a reactive flame retardant and as an additive flame retardant in the manufacture of polymer resins, in products such as epoxy coated circuit boards, printed circuit boards, paper and textiles.	17-Jan-23	1000ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

4,4'-sulphonyldiphenol	80-09-1	201-250-5	Used for the manufacture of pulp, paper and paper products, textile, leather or fur, and chemicals.	17-Jan-23	1000ppm
Barium diboron tetraoxide	13701-59-2	237-222-4	Used in paints and coatings.	17-Jan-23	1000ppm
Bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers and/or combinations thereof:Bis(2-ethylhexyl) tetrabromophthalate (TBPH)	26040-51-7	247-426-5	Used as a flame retardant and as a plasticiser for flexible polyvinylchloride and for use in wire and cable insulation, film and sheeting, carpet backing, coated fabrics, wall coverings and adhesives.	17-Jan-23	1000ppm
Isobutyl 4-hydroxybenzoate	857259	224-208-8	Used in the manufacture of substances and in coating products, fillers, putties, plasters, modelling clay, and inks and toners.	17-Jan-23	1000ppm
Melamine	108-78-1	203-615-4	Used in polymers and resins, coating products, adhesives and sealants, leather treatment products, and laboratory chemicals.	17-Jan-23	1000ppm
Perfluoroheptanoic acid and its salts - Ammonium perfluoroheptanoate - Potassium perfluoroheptanoate - Perfluoroheptanoic acid - Sodium perfluoroheptanoate	6130-43-421049-36-5375-85-920109-59-5	228-098-2-206-798-9243-518-4	Not registered under REACH. SVHC can be seen as a measure to avoid regrettable substitution	17-Jan-23	1000ppm
Reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4-(heptafluoropropyl)morpholine	-	473-390-7	Articles by professional workers, in formulation or repackaging, at industrial sites and in manufacturing.	17-Jan-23	1000ppm
Bis(4-chlorophenyl) sulphone(BCPS)	75980-60-8	278-355-8	Monomer for PESU, PSU, PPSU resins	14-Jun-23	1000ppm
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	80-07-9	201-247-9	UV Stabilizer, UV-Curable Coatings	14-Jun-23	1000ppm
Bis(4-chlorophenyl) sulphone(BCPS)	75980-60-8	278-355-8	Monomer for PESU, PSU, PPSU resins	14-Jun-23	1000ppm
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	80-07-9	201-247-9	UV Stabilizer, UV-Curable Coatings	14-Jun-23	1000ppm
Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol	-	700-960-7	Intermediate antioxidant in rubber and plastic	23-Jan-2024	1000ppm
Bumetrizole (UV-326)	3896-11-5	223-445-4	Plastic light stabilizer, additive for coatings, adhesives, sealants, lubricants	23-Jan-2024	1000ppm
2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one	119344-86-4	438-340-0	Intermediate chemical for coated parts	23-Jan-2024	1000ppm

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

2,4,6-tri-tert-butylphenol	732-26-3	211-989-5	Chemical intermediate	23-Jan-2024	1000ppm
2,4,6-tri-tert-butylphenol	732-26-3	211-989-5	Chemical intermediate	23-Jan-2024	1000ppm
Bis(α,α-dimethylbenzyl) peroxide	80-43-3	201-279-3	Crosslinking agent for silicone rubber	27-Jun-2024	1000ppm
Triphenyl Phosphate	115-86-6	204-112-2	flame retardant and plasticiser in polymer formulations, adhesives and sealants.	7-Nov-2024	1000ppm
Reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	192268-65-8	421-820-9	No active registrations	21-Jan-2025	1000ppm
Perfluamine	338-83-0	206-420-2	Manufacture of electrical, electronic and optical equipment and machinery and vehicles	21-Jan-2025	1000ppm
Octamethyltrisiloxane	107-51-7	203-497-4	Manufacture and/or formulation of: cosmetics, personal/health care products, pharmaceuticals, washing and cleaning products, coating and non-metal surface treatment and in sealants and adhesives	21-Jan-2025	1000ppm
O,O,O-triphenyl phosphorothioate	597-82-0	209-909-9	Lubricants and greases	21-Jan-2025	1000ppm
6-[(C10-C13)-alkyl-(branched, unsaturated)-2,5-dioxopyrrolidin-1-yl]hexanoic acid	212156592-54-856592-54-8	701-118-1	Lubricants, greases, release products and metal working fluids	21-Jan-2025	1000ppm
1,1,1,3,5,5,5-heptamethyl-3-[(trimethylsilyl)oxy]trisiloxane	17928-28-8	241-867-7	laboratory reagents, cosmetics, personal care, perfumes/fragrances	25-Jun-2025	1000ppm
Decamethyltetrasiloxane	141-62-8	205-491-7	cosmetics, personal care, lubricants, greases, automotive products	25-Jun-2025	1000ppm
Reactive Brown 51	---	466-490-7	textile dyes and treatments	25-Jun-2025	1000ppm

Section 2.2: Other Garmin Declarable Substances

Due to certain reporting requirements, it will be necessary for certain suppliers to provide 1) notification to Garmin for any substance used from the table below in amounts at or above the threshold levels, or 2) a declaration stating their products do not contain (or are below the applicable threshold for) the following substances. This will be handled on a case-by-case basis with Garmin notifying the supplier as needed.

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

	CAS Number	EC Number	Typical Use	Regulation	Threshold
Beryllium	7440-41-7	231-150-7	Copper alloy	2002/96/EC	1000ppm
Beryllium Oxide	1304-56-9	215-133-1	Electronic Heatsinks	2002/96/EC	1000ppm
Formaldehyde	50-00-0	200-001-8	multiple	EU-R 1272/2008/EEC	1000ppm
Tetrabromobisphenol A 2,2-Bis(3,5- dibromo-4-hydroxyphenyl)propane (TBBPA)	79-94-7	201-236-9	Flame retardant	RoHS Proposed	1000ppm
Per- and polyfluoroalkyl substances (PFAS), intentionally and unintentionally present	Group	Group	Multiple	Maine Public Law 2021 C.477, Minnesota HF1000, EPA TSCA, ECHA Proposed PFAS Ban	Any presence

Section 2.3: Congo Conflict Minerals

The U.S. Financial Reform Law of 2010 includes section 1502 requiring companies to disclose the use of certain metals originating from the Democratic Republic of the Congo and any adjoining country. Suppliers are required to notify Garmin:

- 1) Whether or not they use any of the following metals in the products provided to Garmin and, if so,
- 2) Whether any fraction of those metals originate in the Democratic Republic of the Congo or an adjoining country and
- 3) Whether any of the source mines directly or indirectly fund illegal armed groups in the region.

Congo Conflict Minerals	CAS Number	EC Number	Typical Use	Regulation	Threshold
Tin	7440-31-5	-----	electronic components, solders, wire	U.S. Dodd-Frank Wall Street Reform Act section 1502	0
Tantalum	7440-25-7	-----	capacitors	U.S. Dodd-Frank Wall Street Reform Act section 1502	0
Tungsten	7440-33-7	-----	lighting filaments	U.S. Dodd-Frank Wall Street Reform Act section 1502	0
Gold	7440-57-5	-----	electronic components, connectors	U.S. Dodd-Frank Wall Street Reform Act section 1502	0

Section 2.4: Sweden Chemical Tax Flame Retardant Disclosure

In support of the Swedish Chemical tax law for Phosphorus and Halogenated fire-retardant chemicals Garmin may request additional information or declarations regarding the chemical(s) used as fire agents in Printed Circuit Boards and plastic components, and the type of agent (reactive or additive). Suppliers are expected to support Garmin collecting this information as part of doing business with Garmin.

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

Section 2.5: Per and Polyfluorinated Substances (PFAS), Intentional and Unintentional Use

With the global reporting and restrictions requirements being placed on PFAS substances Garmin may request information or declarations for PFAS substances used by our suppliers within their manufacturing processes or contained within their components, whether intentionally or unintentionally added. Suppliers are expected to support Garmin request for this information as part of doing business with Garmin.

Section 2.6: Allergen and Irritant Substances

For support at or above the threshold levels, suppliers must provide Garmin with information on the presence and content of the following substances in products, components and materials prior to the initial shipment of each product, component or material.

	CAS Number	EC Number	Typical Use	Release Date	Threshold
Latex	9006-04-6	232-689-0	Natural rubber (gloves)	2-Jan-18	1 ppm
Para-tertiary butylphenol-formaldehyde resin (PTBP-FR)	25085-50-1		Phenol formaldehyde resin, glues	2-Jan-18	1 ppm
Mercaptobenzothiazole (MBT)	149-30-4	205-736-8	Organosulfur compound (leather)	2-Jan-18	1 ppm
2-hydroxy-5-tert-butyl benzyl alcohol	---	---	Phenol formaldehyde resin (ink)	2-Jan-18	1 ppm
2,2-dihydroxy-3,3-di-(2-hydroxy-5-tertiary butyl)-benzyl-5,5-ditertiary butyl-diphenylmethane	---	---	Phenol formaldehyde resin	2-Jan-18	1 ppm
Toluene-sulfonamide-formaldehyde resin (TS-FR)	25035-71-6	---	Phenol formaldehyde resin (lacquers, hardeners)	2-Jan-18	1 ppm
Nickel	7440-02-0	231-111-4	Stainless steel	2-Jan-18	1 ppm
Hexavalent chromium	Group	Group	Corrosion resistance	2-Jan-18	1 ppm
Methyl methacrylates (MMA)	80-62-6	201-297-1	Polymers, adhesives	2-Jan-18	1 ppm
2-ethylhexyl acrylate	103-11-7	203-080-7	Adhesives	2-Jan-18	1 ppm
2-hydroxy propyl methacrylate (2-HPMA)	27813-02-1	248-666-3	UV curable ink	2-Jan-18	1 ppm
(Tri)ethylene glycol dimethacrylate (TEGDMA/EGDMA)	109-16-0	203-652-6	Resins	2-Jan-18	1 ppm
Ethyl cyanoacrylate	7085-85-0	230-391-5	Glues, adhesives	2-Jan-18	1 ppm

Section 3: Declarations

GARMIN BANNED/RESTRICTED SUBSTANCES LIST FOR WEARABLE PRODUCTS & COMPONENTS

Section 3.1: Declarations

Upon request, suppliers must provide the following declarations in the format required by Garmin:

1. Ozone Depleting Chemicals Declaration
2. EU RoHS Declaration
3. EU REACH SVHC Declaration
4. EU REACH Annex XVII Declaration
5. PAH Declaration
6. CHCC Declaration
7. CPSIA/ASTM F963/ASTM 2923 Declarations
8. Dodd-Frank Conflict Minerals CMRT form
9. EU Battery Directive Declaration
10. Battery Declaration to UN 38.3
11. EU Packaging Directive Declaration
12. Safety Data Sheets (if applicable)
13. Fire Retardant Chemical Declaration (Sweden Chemical Tax)
14. PFAS Declaration
15. PIP 3:1 Declaration
16. French Mineral Oil in Ink Declaration and Test Reports